

CLAIMS

What is claimed is:

1. An apparatus comprising:

a transceiving circuit to transmit data to or receive data from one or more subscribers through a wireless transmission medium;

a first data link control (DLC) circuit adapted to transmit data between the transceiving circuit and one or more devices coupled to a first wired communication network; and

a second DLC circuit adapted to transmit data between the transceiving circuit and one or more devices coupled to a second wired communication network.
2. The apparatus of claim 1, wherein the first and second wired communication networks comprise distinct physical transmission media.
3. The apparatus of claim 2, wherein the apparatus further comprises a first bridge coupling the first DLC circuit to the first wired communication network and a second DLC circuit coupled to the second wired communication network.
4. The apparatus of claim 1, wherein the first and second wired communication networks comprise a common physical transmission medium.

5. The apparatus of claim 1, wherein the first DLC circuit is associated with a first media access control (MAC) address on the first wired communication network and the second DLC circuit is associated with a second MAC address on the second wired communication network.

6. The apparatus of claim 5, wherein the first DLC circuit is adapted to transmit data between a first class of subscribers and devices coupled to the first wired communication network, and wherein the second DLC circuit is adapted to transmit data between a second class of subscribers and devices coupled to the second wired communication network.

7. The apparatus of claim 5, wherein the first and second DLC circuits are coupled to the transceiving circuit at a common lower DLC circuit, and wherein the first DLC circuit is coupled to the first wired communication network at a first upper DLC circuit and the second DLC circuit is coupled to the second wired communication network at a second upper DLC control circuit.

8. The apparatus of claim 1, the apparatus further comprising circuitry to control transmission of a first beacon signal and a second beacon signal in the wireless transmission medium from the transceiving circuit, the first beacon signal comprising information associated with the first wired communication network and the second beacon signals comprising information associated with the second wired communication network.

9. The apparatus of claim 8, wherein the first beacon signal is associated with a first basic service set and the second beacon signal is associated with a second basic service set.

10. The apparatus of claim 8, wherein the first beacon signal is associated with a first extended service set and the second beacon signal is associated with a second extended service set.

11. A method comprising:

- transmitting data between a transceiving circuit and subscribers in a wireless transmission medium;
- transmitting data between the transceiving circuit and one or more devices coupled to a first wired communication network through a first DLC circuit; and
- transmitting data between the transceiving circuit and one or more devices coupled to a second wired communication network through a second DLC circuit.

12. The method of claim 11, wherein the first and second wired communication networks comprise distinct physical transmission media.

13. The method of claim 12, wherein the method further comprises:
- transmitting data between the first wired communication network and the first DLC circuit through a first bridge; and
- transmitting data between the second wired communication network and the second DLC circuit through a second bridge.
14. The method of claim 11, wherein the first and second wired communication networks comprise a common physical transmission medium.
15. The method of claim 11, wherein the first DLC circuit is associated with a first media access control (MAC) address on the first wired communication network and the second DLC circuit is associated with a second MAC address on the second wired communication network.
16. The method of claim 15, wherein the method further comprises:
- transmitting data between a first class of wireless subscribers and devices coupled to the first wired communication network through the wireless transmission medium and the first DLC circuit; and
- transmitting data between a second class of wireless subscribers and devices coupled to the second wired communication network through the wireless transmission medium and the second DLC circuit.
17. The method of claim 15, wherein the first and second DLC circuits are coupled to the transceiving circuit at a common lower DLC circuit, and wherein the first DLC circuit is coupled to the first wired communication network at a first upper DLC circuit

and the second DLC circuit is coupled to the second wired communication network at a second upper DLC control circuit.

18. The method of claim 11, the method further comprising:

transmitting a first beacon signal in the wireless transmission medium from the transceiving circuit, the first beacon signal comprising information associated with the first wired communication network; and

transmitting a second beacon signal in the wireless transmission medium from the transceiving circuit, the second beacon signal comprising information associated with the second wired communication network.

19. The method of claim 18, wherein the first beacon signal is associated with a first basic service set and the second beacon signal is associated with a second basic service set.

20. The method of claim 18, wherein the first beacon signal is associated with a first extended service set and the second beacon signal is associated with a second extended service set.

21. A system comprising:

a transceiving circuit to transmit data to or receive data from one or more subscribers through a wireless transmission medium;

a first wired communication network comprising one or more devices;

a second wired communication network comprising one or more devices;

a first data link control (DLC) circuit adapted to transmit data between the transceiving circuit and one or more devices coupled to the first wired communication network; and

a second DLC circuit adapted to transmit data between the transceiving circuit and one or more devices coupled to the second wired communication network.

22. The system of claim 21, wherein the first and second wired communication networks comprise distinct physical transmission media.

23. The system of claim 22, wherein the system further comprises a first bridge coupling the first DLC circuit to the first wired communication network and a second DLC circuit coupled to the second wired communication network.

24. The system of claim 21, wherein the first and second wired communication networks comprise a common physical transmission medium.

25. The system of claim 21, wherein the first DLC circuit is associated with a first media access control (MAC) address on the first wired communication network and the second DLC circuit is associated with a second MAC address on the second wired communication network.

26. The system of claim 25, wherein the first DLC circuit is adapted to transmit data between a first class of subscribers and devices coupled to the first wired communication network, and wherein the second DLC circuit is adapted to transmit data between a second class of subscribers and devices coupled to the second wired communication network.

27. The system of claim 25, wherein the first and second DLC circuits are coupled to the transceiving circuit at a common lower DLC circuit, and wherein the first DLC circuit is coupled to the first wired communication network at a first upper DLC circuit and the second DLC circuit is coupled to the second wired communication network at a second upper DLC control circuit.

28. The system of claim 21, the system further comprising circuitry to control transmission of a first beacon signal and a second beacon signal in the wireless transmission medium from the transceiving circuit, the first beacon signal comprising information associated with the first wired communication network and the second beacon signals comprising information associated with the second wired communication network.

29. The system of claim 28, wherein the first beacon signal is associated with a first basic service set and the second beacon signal is associated with a second basic service set.

30. The system of claim 28, wherein the first beacon signal is associated with a first extended service set and the second beacon signal is associated with a second extended service set.